REMARKS

This paper is a submission that accompanies a request for continued examination, subsequent to the Final Office Action dated November 16, 2005. Claims 1-8 and 33-48 were examined. Claims 1 – 8 and 33 – 48 were rejected. Applicant has amended claims 1 – 8. Claim 1 has been amended to clarify the claim. Claims 2 – 8 have been amended to avoid antecedent basis errors resulting from amendment of claim 1. These amendments were presented in the After Final Response of January 16, 2006, but were not entered as indicated in the Advisory Action of February 22, 2006. A new claim 49 has been added. No new matter has been added with this new claim. *See* pages 10 – 11 and Figure 8. A non-narrowing amendment has been made to claim 33 to remove unnecessary words.

Request for Examiner Interview

Applicant requests an Examiner Interview and the presence of a primary or supervisory patent examiner for the requested Examiner Interview. Applicant requests the Examiner Interview for April 28, 2006 at 11:00 am EDT.

Rejections under 35 U.S.C. §112, second paragraph

The Examiner has rejected claim 4 under 35 U.S.C. §112, second paragraph, as being indefinite. Applicant respectfully traverses the rejection. The Examiner contends that claim 4 is indefinite because there is no disclosure as to what data is being passed, or when and why it is being passed. The data being passed is "fault to target translation data." Applicant respectfully refers the Examiner to Figure 4 to assist the Examiner. Applicant requests that the rejection of claim 4 be withdrawn since claim 4 is definite.

Rejections under 35 U.S.C. §103

The Office has rejected claims 1 – 8 and 33 – 48 under 35 U.S.C. §103 as being unpatentable over "Optimizing Away C++ Exception Handling" by Schilling (Schilling)in view of "Effective Null Pointer Check Elimination Utilizing Hardware Trap" by Kawahito, et al. (Kawahito), and further in view of U.S. Patent No. 6,189,141 naming as inventors Benitez, et al. (Benitez). Applicant traverses all of the rejections at least because the Examiner has failed

1) to establish prima facie case of obviousness by not showing disclosure or suggestion of elimination of null check pointer conditions that infrequently encounter null conditions; and

2) to show evidence of motivation or suggestion to combine and modify the references as done by the Examiner.

1) Failure to show each and every limitation

The Examiner has not shown that the references together disclose or suggest conditional elimination of null pointer condition checks. As previously stated, Kawahito discloses eliminating redundant null pointer condition checks in both phase 1 and phase 2. However, the Examiner refers to the Kawahito statement that "[null checks] are converted to hardware traps wherever possible. The Examiner takes the one statement and fails to appreciate the meaning of converting null checks to hardware traps as explained in 3.3.1 of Kawahito. In addition, the Office interprets the statement of "wherever possible" as an invitation to make any combination or modification to Kawahito imaginable, or with the assistance of hindsight as done by the Office.

Kawahito's conversion of null checks to hardware traps eliminates redundant null checks

The Office has a mistaken understanding of the statement in the Introduction of Kawahito at page 139, second column, fifth full paragraph. Review of section 3.3.1 clearly explains that the conversion is not a simple removal of a null check instruction for a hardware trap for whatever reason. Figure 7 clearly depicts a null check instruction in a code. To implement a move forward of the null check instruction, Kawahito discloses inserting an implicit null check and an explicit null check in the paths that diverge from the null check instruction. It is explained at page 142, second column, second full paragraph, that the implicit null check is only inserted if the next instruction is known to cause a hardware trap in case of a null condition. The same paragraph explains that the implicit null check "does not generate actual code" and that the following instruction is the actual exception site. **With the implicit null check (i.e., the following instruction that will cause a hardware trap if necessary), the null check instruction is eliminated because it is redundant**. Kawahito never discloses or suggests eliminating a null check instruction because it infrequently encounters null pointer conditions. **Kawahito discloses eliminating null check instructions that are redundant either because of**

other null check instructions or because a subsequent instruction will cause a hardware trap if a null pointer is encountered. Neither Benitez nor Schilling disclose or suggest null pointer condition check elimination, and Kawahito fails to disclose or suggest eliminating a null pointer condition check if the check infrequently encounters null pointers. Hence, none of the references, standing alone or in combination, disclose or suggest independent claims 1, 33, 41, and 44.

2) Combination and modifications of references as performed by the Examiner lack motivation or suggestion

To support the rejections, the Examiner modifies Benitez, modifies Kawahito, and then combines the modified references with Schilling. The Examiner has employed hindsight as guidance in modifying and combing the references. Applicant respectfully sets forth, again, the legal requirements for obviousness.

Legal Requirements for Obviousness

Obviousness "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). "[T]eachings of references can be combined *only* if there is some suggestion or incentive to do so." In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1599 – 1600 (Fed. Cir. 1988), *quoting* ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 221 USPQ 929 (Fed. Cir. 1984) (emphasis in original).

"The case law makes clear that the best defense against the subtle but powerful attraction of hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight." In re Dembiczak, 175 F.3d 994, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999). "[E]vidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved." *Id.* **The showing of such evidence "must be clear and**

particular. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence.'" *Id.* (emphasis added). "To imbue one of ordinary skill in the art with knowledge of the invention..., when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." W.L. Gore & Assoc., Inc. v. Garlock, Inc., 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983).

Lack of Suggestion or Motivation

a) Benitez

The Examiner states that frequent execution of one block inherently indicates that an alternative block is infrequently executed with the assistance of elementary algebra. Although Applicant will concede that algebra is within the grasp of one of ordinary skill in the art, Applicant respectfully submits that the Examiner's logic is too simple and that the assertion of inherency lacks support. **The Examiner's assertion at least lacks support because Benitez specifically states that a trace may be removed if control flow through a hot trace falls below a threshold. *See* Abstract. This statement flies in the face of the Examiner's attempted use of Benitez to track infrequently executed instructions.**

b) Benitez and Kawahito

Despite the contradiction with the Abstract, the Examiner rationalizes that infrequently executed instructions can be determined since, inherently, the alternative to the frequently executed instruction, as traced by Benitez, is the infrequently executed instructions. In addition to going against the teaching in the Benitez, the Examiner fails to provide any evidence of a suggestion or motivation to use Benitez to implicitly determine whether a null pointer condition check infrequently encounters null pointer conditions. **The Examiner's justification is that one would want to use Benitez in such a manner to identify null pointer condition checks that infrequently encounter null pointer conditions. In other words, the Examiner's justification is Applicant's disclosure.**

The Examiner also lacks any suggestion or motivation to modify Kawahito's elimination technique. With the exception of Applicant's disclosure, there is no motivation or suggestion to modify Kawahito from eliminating redundant null pointer condition checks to eliminating null

pointer condition checks that infrequently encounter null pointer conditions. Without any evidence (with the exception of Applicant's disclosure), the Examiner concludes that one of ordinary skill with Benitez would be motivated to seek out Kawahito; somehow modify Kawahito from eliminating redundant null pointer condition checks to eliminating null pointer condition checks as recited in Applicant's claims; and then refer to Schilling's general disclosure of exception handling to suddenly arrive at Applicant's claims. **The only motivation proffered by the Examiner is Benitez's general statement that hot blocks can be optimized.** There is no motivation or suggestion to modify Kawahito as done by the Examiner. **The general desire to optimize a hot block as disclosed in Benitez, is not specific evidence of a motivation or suggestion to modify Benitez to identify null pointer condition checks that infrequently encounter null pointer conditions and then combine the modified Benitez with a modified Kawahito. The Examiner's obviousness analysis lacks any showing of specific evidence of a suggestion or motivation to modify and combine the references as done by the Examiner.** The Examiner has failed to conduct an obviousness analysis without the assistance of Applicant's disclosure.

In addition to failing to establish a prima facie case of obviousness, the Examiner has performed an improper obviousness analysis with the assistance of Applicant's disclosure. None of the references, standing alone or in combination, disclose or suggest any of the claims. Applicant respectfully requests withdrawal of the rejections.

Conclusion

In summary, claims 1-8 and 33-49 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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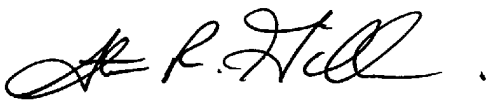
Respectfully submitted,



Steven R. Gilliam, Reg. No. 51,734
Attorney for Applicant(s)
(512) 338-6320 (direct)
(512) 338-6300 (main)
(512) 338-6301 (fax)